Before the
DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL ENVIRONMENTAL SATELLITE, DATA, & INFORMATION SERVICE
Silver Spring, MD 20910

In the Matter of	)	
	)	NOAA-NESDIS-2018-0058
Licensing Private Remote Sensing Space Systems	)	RIN 0648–BA15
	)	

COMMENTS OF MAXAR TECHNOLOGIES INC.

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June 10, 2020

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I. INTRODUCTION AND SUMMARY.

Maxar Technologies Inc. ("Maxar") welcomes the release of the Final Rule and Request for Comments ("Final Rule") in the above-captioned proceeding.[1] As the leading global provider of advanced space technology solutions delivering unmatched end-to-end capabilities in satellites, robotics, Earth imagery, geospatial data, analytics, and insights, Maxar is encouraged by many aspects of the Final Rule. In particular, Maxar is pleased with the Final Rule's emphasis on ensuring continued U.S. leadership in the highly competitive global market for space-based remote sensing data. Many of the changes between the Proposed Rule[2] and the Final Rule will improve the competitive environment for U.S. companies, and Maxar appreciates the constructive approach that the Department of Commerce and the National Oceanic and Atmospheric Administration ("NOAA") have taken in response to the comments received in this proceeding.

However, the Final Rule contains several critical ambiguities and potential inconsistencies that—if not fixed—may undermine NOAA's wise policy objectives. Accordingly, Maxar makes

[1] *See* Licensing of Private Remote Sensing Space Systems, Final Rule and Request for Comments, 85 Fed. Reg. 30790 (May 20, 2020) ("Final Rule").

[2] *See* Licensing of Private Remote Sensing Space Systems, Proposed Rule, 84 Fed. Reg. 21282 (May 14, 2019) ("Proposed Rule").

five proposals for clarifying or amending the Final Rule that will ensure full realization of these stated objectives and that NOAA remains within its lawful authority.

First, NOAA should clarify that all previously licensed private remote sensing space systems will be classified as either Tier 1 or Tier 2 systems under the Final Rule. This clarification is consistent with the Final Rule's text and purpose to eliminate burdensome and unnecessary conditions wherever possible so as to promote U.S. leadership in space. It is also consistent with the Final Rule's recognition that a Tier 3 designation should normally expire one year after a license is issued and must expire an "absolute maximum" of three years after the license is issued. Given that the vast majority of systems have been licensed for more than three years, this important clarification will ensure that U.S. companies can use their existing systems "to innovate and *to lead* th[e] global market" for space based remote sensing data.[3] By contrast, saddling existing systems with a Tier 3 designation—and the conditions that come with it—would represent a continuation of the prior licensing regime that the Final Rule abolished. Carrying forward outdated restrictions—many of which were imposed "retroactively" after initial issuance of licenses—would maintain the status quo for U.S. operators and continue to give foreign competition opportunities to catch up. The Final Rule makes clear that it is time to unleash the full potential and value of U.S. licensed systems by classifying them as Tier 1 or Tier 2.

Second, NOAA should establish an expedited procedure for licensees to prompt the "automatic" recategorization of their systems to a lower tier as contemplated in the Final Rule based upon the marketplace availability of similar capabilities. The Final Rule correctly recognizes that for the new three-tiered system to promote success in U.S. innovation and market leadership, there must be a mechanism for swift re-categorization. Under Maxar's proposal,

[3] *See* Final Rule, 85 Fed. Reg. at 30791 (emphasis added).

NOAA would accept for filing evidence from a Tier 2 or Tier 3 system operator that similar unenhanced data has become available from another source, thereby warranting re-categorization to a lower tier. The Secretary should make his re-categorization decision within 14 days, or the filing would be deemed granted. Adopting this process would further NOAA's goal of creating a procedure that automatically recategorizes systems when new information becomes available and would further improve the competitiveness of American private remote sensing systems.

Third, NOAA should eliminate physical site inspections for remote sensing facilities. These inspections impose unnecessary burdens on licensees, contemplate unrealistic compliance timelines, have been rendered moot by the elimination of data protection plans, and, with respect to foreign-controlled or foreign-sited facilities, raise dire questions about NOAA's statutory authority which the agency has failed to acknowledge or address. Accordingly, NOAA should amend the Final Rule to eliminate all physical site inspections. At the very least, it should eliminate physical site inspections for foreign facilities and stations that do not have ultimate command authority over a satellite, such as "bent pipe" facilities.

Fourth, NOAA should eliminate all conditions regulating Non-Earth Imaging ("NEI") and acknowledge that NOAA lacks statutory authority to regulate NEI. The text, structure, history, and purpose of the Land Remote Sensing Policy Act confirm that NOAA's authority to license "remote sensing" systems pertains only to capabilities that image the "surface features of the Earth."[4] Indeed, although the Final Rule itself correctly recognizes that "remote sensing" means "the collection of unenhanced data . . . which can be processed into imagery of surface features of *the Earth*,"[5] the Final Rule nevertheless purports to regulate the imaging of objects that are not on

[4] 51 U.S.C. §§ 60121(a), 60122(a), 60101(4).

[5] Final Rule, 85 Fed. Reg. at 30807 (§ 960.4) (emphasis added).

the Earth through NEI conditions.[6] Because the provisions of the Final Rule regulating NEI cannot be squared with the limitations Congress placed on its delegation of authority to NOAA, they must be removed from the Final Rule.

Finally, to the extent that NOAA elects to retain NEI conditions in direct violation of Congress's instructions—and it should not do so—those NEI conditions should be amended to contain an emergency exception. Such an exception would recognize that although the NEI conditions imposed by the Final Rule require a five-day notice period, sometimes emergency situations may arise in the dynamic environment of space that require immediate imaging to protect life and property from destruction. The Final Rule should be amended to recognize that immediate imaging in emergency situations is lawful.

II. THE FINAL RULE TAKES POSITIVE STEPS TOWARD PROMOTING U.S. LEADERSHIP IN THE PRIVATE SPACE-BASED REMOTE SENSING MARKET.

Maxar applauds the release of the Final Rule. The Final Rule aims to eliminate many unnecessary conditions that have long been attached to licenses for private U.S. remote sensing systems and, in doing so, heralds a welcome shift to more light-touch regulation of these systems. For too long, Maxar and other U.S. operators have been hamstrung by a burdensome remote sensing regulatory regime that gave a leg up to global competitors operating without similar restrictions. Indeed, the Final Rule recognizes what has long been known—that prohibitions and restrictions on the operations of U.S. companies do not help U.S. national security when global competitors operate freely with the same capabilities but without the same restrictions. In fact, *overregulation* of private remote sensing systems harms the national security interests of the United States because burdensome regulations disincentivize U.S. companies from developing the

[6] *See, id.* at *e.g.*, 30809 (§ 960.9(b)); 30809 (§ 960.10(a)(2)).

next generation of remote-sensing technologies that will give the United States a strategic and competitive edge.

The Final Rule accounts for these realities in several important ways. Foremost, the Final Rule correctly recognizes that U.S. leadership depends in part on a favorable regulatory system.[7] The Final Rule acknowledges that "[t]he pace of foreign competition has intensified," as "an estimated 250 non-U.S. remote sensing systems have either become operational or are planned" since 2006.[8] The Final Rule notes that overregulation incentivizes operation of remote sensing systems abroad, explaining that "any U.S. company with a license restriction is at a disadvantage if a foreign competitor is not subject to the same restriction, all else being equal."[9] This in turn may hurt American national security interests by discouraging U.S. innovation and by driving investment away from U.S. companies and into their foreign-owned competition. Thus, as the Final Rule acknowledges, it is in the economic and national security interests of the United States to promote U.S. leadership through regulatory reform "that ensures the United States remains the 'flag of choice' for operators of private remote sensing space systems."[10]

Second, and to further this broad policy, the Final Rule adopts a more dynamic form of risk assessment that evaluates a system based on the remote sensing data available from other sources, rather than on a static assessment of the technology used by the system. The Final Rule adopts a three-tiered approach that categorizes licenses based on "whether the unenhanced data to be

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[7] *See, e.g.*, Final Rule, 85 Fed. Reg. at 30793 (explaining that ensuring "American industry will never be restricted more than foreign competition" will "help effectuate the President's policy in SPD-2 of encouraging American leadership in space.").

[8] *Id.* at 30791.

[9] *Id.*

[10] *Id.* at 30790.

generated by the proposed system are already available in the United States or in other nations."[11] Tier 1 systems—those that collect unenhanced data already available from foreign entities—are subject to the standard license conditions, which NOAA describes as "the bare minimum of conditions."[12] Tier 2 systems—those that collect unenhanced data available from entities licensed by NOAA—are subject to two additional conditions: (i) NEI requirements, and (ii) compliance with "limited-operations directives."[13] Tier 3 systems—those that collect unenhanced data not available from any other system—are subject to the Tier 2 requirements and must also "comply with possible temporary conditions" imposed by the agency.[14] As explained below, NOAA should take particular care to ensure that these Tier 3 conditions are limited in both scope and duration.

This three-tiered methodology will better achieve the policy goals articulated by NOAA than would the Proposed Rule's approach. Whereas the Proposed Rule would have designated the most advanced systems as "high-risk" and limited their operations indefinitely based on the technology employed, the distinction between tiers recognizes that it makes little sense—and may in fact be harmful to the United States—to prohibit or restrict the collection of remote sensing data by U.S. companies when that same data is freely collected by foreign entities outside NOAA's jurisdiction. While Maxar generally supports this approach and applauds NOAA for recognizing the problems with its prior proposal,[15] NOAA must take care during the implementation of the three-tiered system not to discourage innovation by market leaders.

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[11] *Id.* at 30791.

[12] *Id.* at 30792, 30799.

[13] *Id.* at 30800.

[14] *Id.*

[15] *See* Proposed Rule, 84 Fed. Reg. at 21283.

In particular, NOAA should be cautious in designating systems as Tier 3 and must strictly adhere to the Final Rule's temporal limits on Tier 3 conditions. The Final Rule is designed to enable the U.S. private remote sensing industry "to innovate and *to lead* th[e] global market" for remote sensing data.[16] The operators of Tier 3 systems exhibit the innovative market leadership that NOAA seeks to encourage with the Final Rule. Accordingly, Tier 3 designation and its associated conditions should be a last resort, rather than a deterrent that saddles the most innovative American companies with onerous regulations. The Final Rule—rightfully—aims to limit the scope and duration of Tier 3 temporary conditions by establishing procedures to "ensure that the condition[s] [are] as narrowly tailored to the risk as possible" and setting a presumptive one-year time limit and an "absolute maximum of three years."[17]

These limitations on Tier 3 conditions are critical. Without them, the threat of overregulation of Tier 3 systems will stifle many of the benefits that the Final Rule is designed to encourage. These limitations should likewise ensure that the Final Rule's prohibition of "any additional conditions" is a meaningful one.[18] If Tier 3 conditions are not limited in scope and duration, then NOAA may retain discretion to impose through the back door that which the rule purports to limit. Maxar thus urges NOAA to strictly adhere to the Final Rule's substantive and temporal limits on these conditions, and proposes two concrete methods for doing so below.[19]

Third, the Final Rule takes positive steps toward greater transparency and the elimination of heavy-handed operating conditions that create uncertainty and stifle innovation. The Final Rule seeks to codify most license conditions and to limit the imposition of additional conditions.

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[16] *See* Final Rule, 85 Fed. Reg. at 30791 (emphasis added).

[17] *See id.* at 30800–01.

[18] *See id.* at 30801.

[19] *See infra* Sections III.A, III.B.

Specifically, the Final Rule eliminates individual, non-public permanent license conditions, replacing them with publicly promulgated "standard license conditions."[20] This increase in transparency provides greater certainty to the operators of private remote sensing space systems that will encourage additional investment, and will thus serve Congress's desire to stimulate development in the commercial market for remote sensing, unenhanced data, and value-added services.[21]

Maxar is particularly pleased that the Final Rule eliminates the possibility of "retroactive conditions."[22] Retroactive conditions are those imposed unilaterally by NOAA following the issuance of a remote sensing license. As industry commenters explained in comments to the Proposed Rule, "retroactive license conditions undermine the U.S. industrial base, deter investment, and enhance the reputation of the United States as a risky place to do business."[23] Maxar looks forward to the removal of all existing retroactive conditions on its licenses.[24]

Maxar is also pleased that the Final Rule excludes from the definition of remote sensing instruments that are used primarily for technical or mission assurance purposes.[25] Because these

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[20] *See* Final Rule, 85 Fed. Reg. at 30799–800.

[21] *See* Land Remote Sensing Policy Act of 1992, Pub. L. No. 102-555, 106 Stat. 4163 § 2(14), (15).

[22] *See id.*

[23] *See, e.g.*, Consensus Comments of Maxar Technologies, Inc., Planet Labs, Inc., Spire Global, Inc., BlackSky Global LLC and HawkEye 360, Inc., In the Matter of Licensing Private Remote Sensing Space Systems, NOAA-NESDIS-2018-0058, NPRM (filed July 15, 2019), at 12 ("*Industry Consensus Comments*").

[24] *See* Final Rule, 85 Fed. Reg. at 30791 ("Commerce will eliminate most of the permanent license conditions existing in current licenses, license appendices, and included in the proposed rule, retaining only the bare minimum of permanent license conditions (generally only those required by the Act or other laws)."), 30801 (explaining that "existing conditions (including Geographic Exclusion Areas, license appendices, and Data Protection Plan requirements) will not automatically or permanently be included in any license.").

[25] *See id.* at 30806 (§ 960.2(b)).

instruments do not present regulatory risks, NOAA was right to exclude them from its regulatory sweep.

Taken together, these revisions to the Final Rule represent a vast improvement over the Proposed Rule. Maxar applauds NOAA's efforts to foster an environment of innovation and American leadership in the private remote sensing industry.

III. SOME REVISIONS TO THE FINAL RULE ARE NEEDED TO ENSURE THAT NOAA REMAINS WITHIN ITS STATUTORY AUTHORITY AND TO MAKE THE FINAL RULE MORE EFFECTIVE IN ACHIEVING ITS GOALS.

Despite these significant advances in the Final Rule, some additional changes are needed to ensure that the goals of the Final Rule are fully realized and that NOAA remains within its lawful authority. With recognition and appreciation for the constructive approach that NOAA has taken so far in this proceeding, Maxar requests several important improvements before the Final Rule goes into effect.

A. NOAA Should Clarify That All Existing Licenses Will Be Reissued At Tier 1 Or Tier 2 And That No New Conditions Will Be Imposed.

One of the primary purposes of the Final Rule is to "eliminate most of the permanent license conditions existing in current licenses, license appendices, and included in the proposed rule" and to retain "only the bare minimum of permanent license conditions[.]"[26] To that end, the Final Rule eliminates all "permanent conditions restricting any imaging techniques."[27] Furthermore, the Final Rule states that all "previously licensed" imaging techniques "would either be Tier 1 or Tier 2 and therefore have no possibility of additional conditions, unless they produce unenhanced data that are novel in some way, in which case they would be categorized as Tier 3."[28]

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[26] *Id.* at 30791.

[27] *Id.* at 30800.

[28] *Id.*

Maxar interprets this statement in the Final Rule to mean that all previously licensed private remote sensing systems will be categorized at the Tier 1 or the Tier 2 level, and Maxar seeks clarification from NOAA to confirm that interpretation. As explained in the preceding section, limiting Tier 3 designations is necessary to enable U.S. companies "to innovate and to lead th[e] global market" for space based remote sensing data.[29] It is also consistent with the agency's factfinding in this proceeding, which acknowledges that most previously licensed systems produce unenhanced data that is "available" in the United States (Tier 2) or elsewhere (Tier 1).[30]

To the extent that any previously licensed system produces unenhanced data that could be considered "novel," Tier 3 temporary license conditions could not be imposed if the license for that system was issued three or more years ago because that license will have already exceeded the "absolute maximum" length of time that such conditions can be imposed.[31] Indeed, the Final Rule itself explains that "one year will be sufficient, in many cases, to allow the U.S. Government to understand how to mitigate" "the risk it foresees from novel technology."[32]

NOAA has explained the reasons for limiting the duration of Tier 3 conditions. Foremost, "no more than three years should be needed for the U.S. Government to take necessary steps to protect itself from a new technology."[33] By the time three years have passed, "it is likely that foreign capabilities would be under development," so imposing temporary conditions for longer than three years "would only encourage the development of such foreign capabilities" as the

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[29] *Id.* at 30791.

[30] *See id.* at 30808 (§ 960.6(a)(1), (2)).

[31] *Id.* at 30801 ("Therefore, a temporary condition will, absent an approved Secretarial request, last for an absolute maximum of three years.").

[32] *Id.* at 30800.

[33] *Id.* at 30801.

conditions signal to foreign competition a market opening.[34] Indeed, that is one reason why NOAA expressly turned away from an approach to attach conditions to U.S. systems "until circumstances render the condition obsolete," rightly calling this regulatory approach "ineffective and counterproductive."[35]

For these reasons, NOAA should clarify that all existing private remote sensing licenses will be reissued at the Tier 1 or Tier 2 level. At minimum, systems licensed before July 2017 (*i.e.*, three years prior to the effective date of the Final Rule) should be reissued at the Tier 1 or Tier 2 level, and NOAA must not impose any new conditions on these licenses.[36] Subjecting existing systems to any Tier 3 conditions would fly in the face of the purpose of the Final Rule; if currently-licensed U.S. systems are placed into Tier 3, their U.S. operators will lose the value of these systems and be forced to wait for their foreign competition to catch up.

B. NOAA Should Establish An Expedited Procedure For "Automatic" Recategorization As A Result Of Increased Availability.

The Final Rule's three-tiered approach is intended to help address "the development of foreign competition" and to "help ensure continued U.S. leadership in the global market for space-based remote sensing data."[37] And it embodies a recognition that American industry should "never be restricted more than foreign competition."[38] Maxar applauds these goals, and NOAA should ensure that it is applying the Final Rule in a way that will avoid deterring American innovation, particularly with regard to the Tier 3 category of systems, as discussed *supra*.

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[34] *Id.*

[35] *Id.* at 30792.

[36] For the same reason, any new systems licensed after that time that warrant Tier 3 categorization should be categorized as such for no more than three years after the initial license was issued.

[37] Final Rule, 85 Fed. Reg. at 30792.

[38] *Id.* at 30793.

One such way for NOAA to achieve the innovation-enhancing intent of the Final Rule is to adopt a mechanism to prompt swift re-categorization of systems into lower tiers. Indeed, the Final Rule recognizes that the classifications of individual systems to particular tiers "are not fixed."[39] It provides that "systems will automatically move to lower-numbered tiers as the unenhanced data they are capable of producing become available" from foreign or domestic competitors.[40] For example, "[a]s soon as a non-U.S.-licensed entity (such as a foreign commercial entity) has the capability to collect unenhanced data substantially the same as a Tier 2 system, the Secretary may re-categorize the system as Tier 1, removing the requirements addressing the resolved imaging of ARSO and to comply with limited-operations directives."[41] Similarly, a system that is initially categorized as Tier 3 may later be recategorized as Tier 2.[42] However, the Final Rule does not establish a tailored mechanism to achieve the "automatic" re-categorization it contemplates. Although the Final Rule empowers the *Secretary* to re-categorize a system, it does not define a process for the *licensee* to promptly procure re-categorization.[43] Instead, licensees would presumably have to apply for a license modification, a procedure that contemplates a 60-day timeline.[44]

Maxar proposes that NOAA establish an expedited process whereby the operator of a Tier 2 or Tier 3 system can submit evidence showing that the unenhanced data of which they are capable of producing has become available from other sources. Under this process, the operator of a Tier

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[39] *Id.* at 30792.

[40] *Id.* at 30798.

[41] *Id.* at 30792.

[42] *Id.* at 30798.

[43] *Id.* at 30808 (§ 960.6(c)).

[44] *See id.* at 30810 (§ 960.13(d)).

2 or Tier 3 system could provide the Secretary with evidence that unenhanced data has become available from other sources, thereby warranting re-categorization to a lower-tier system. Maxar proposes requiring the Secretary to issue a re-categorization decision within 14 days. Maxar also proposes that this process utilize a deemed granted mechanism, similar to the one in the license application process. In the license application process, applicants "may submit a request that [a] license be granted," which the Secretary must accept within three days, absent "specific, credible evidence" of noncompliance.[45] A similar approach here would help NOAA achieve its goal of dynamic, automatic re-categorization.[46] Maxar recommends adding the following language (in red, emphasized text) in § 960.6 to effectuate this mechanism:

> (c) The system shall remain in the tier assigned to it under paragraph (a) in this section until such time as the Secretary determines, after consultation with the Secretaries of Defense and State as appropriate, that the system belongs in a lower-numbered tier due to the advancement of non-U.S. commercial remote sensing capabilities or due to other facts, or until the Secretary grants the licensee's request for a license modification that results in re-categorization under § 960.13. **A licensee may submit a request to the Secretary for re-categorization into a lower-numbered tier with a showing facts or reasons that would justify re-categorization into a lower tier. The Secretary shall grant this request within 14 days, unless the Secretary has specific, credible evidence that the facts or reasons provided do not justify re-categorization into a lower tier. If the Secretary fails to act on the request within 14 days, the request is deemed granted.** When the Secretary determines that a lower-numbered tier is appropriate due to reasons other than a modification under § 960.13 **or a licensee's re-categorization request pursuant to this paragraph**, the Secretary will notify the applicant or licensee in writing that the system falls under a lower-numbered tier than the one previously assigned under this section. Upon receiving that notification, the applicant or licensee will be responsible for complying only with the license conditions applicable to the new tier.

An expedited procedure is necessary to prevent an operator from becoming trapped at a tier that does not accurately reflect developments in the market. The danger is especially great with regard to Tier 3. Tier 3 categorization threatens to create perverse incentives whereby market

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[45] *Id.* at 30808 (§ 960.7(c)).

[46] *Cf. Montgomery Cty., Md. v. FCC*, 811 F.3d 121, 127–29 (4th Cir. 2015) (upholding "deemed granted" procedure as a valid method of implementing a presumption of approval).

leaders who develop the next generation technology necessary to maintain the United States' strategic and competitive edge are punished for innovation with heavy-handed regulation. One way for NOAA to alleviate this concern is to provide an expedited procedure for re-categorization.[47]

C. NOAA Should Eliminate Physical Site Inspections.

The Final Rule requires all licensees to grant the Secretary physical access to "any component of [a private remote sensing space] system" "at all reasonable times and with no shorter notice than 48 hours[.]"[48] As the Final Rule acknowledges, commenters stringently opposed the necessity and scope of physical inspections in the Proposed Rule.[49] These commenters showed that on-site inspections are outdated, unnecessary, and impose an undue burden on system operators.[50]

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[47] For the same reason, NOAA should classify systems as Tier 3 and impose temporary license conditions only as a last resort.

[48] Final Rule, 85 Fed. Reg. at 30808 (§ 960.8(h)).

[49] *See, e.g.*, Comments of Maxar Technologies Inc., In the Matter of Licensing Private Remote Sensing Space Systems, NOAA-NESDIS-2018-0058, NPRM (filed July 15, 2019), at 28–29 ("*Maxar NPRM Comments*"); Comments of Maxar Technologies Holdings Inc., In the Matter of Licensing Private Remote Sensing Space Systems, NOAA-NESDIS-2018-0058, ANPRM (filed Aug. 28, 2018), at 8–9 ("*Maxar ANPRM Comments*"); Comments of Space Logistics, LLC, In the Matter of Licensing Private Remote Sensing Space Systems, NOAA-NESDIS-2018-0058, NPRM (filed July 15, 2019), at 10 n.36 ("*Space Logistics NPRM Comments*"); Comments of Space Logistics, LLC, In the Matter of Licensing Private Remote Sensing Space Systems, NOAA-NESDIS-2018-0058,, ANPRM (filed Aug. 28, 2018), at 13 ("*Space Logistics ANPRM Comments*"); Comments of the Advisory Committee on Commercial Remote Sensing, NOAA-NESDIS-2018-0058-0028, NPRM (filed July 15, 2019), at 42 ("*ACCRES NPRM Comments*"); Comments of Space Exploration Technologies Corp., In the Matter of Licensing Private Remote Sensing Space Systems, NOAA-NESDIS-2018-0058, ANPRM (filed Aug. 28, 2018), at 5–6 ("*SpaceX ANPRM Comments*") ; Comments of the Commercial Smallsat Spectrum Management Association, In the Matter of Licensing Private Remote Sensing Space Systems, NOAA-NESDIS-2018-0058, ANPRM (filed Aug. 28, 2018), at 23–24 ("*CSSMA ANPRM Comments*").

[50] *See id.*

The Final Rule's addition of the 48-hour proviso does not adequately address the problems with physical site inspections raised by these commenters. NOAA's Advisory Committee on Commercial Remote Sensing ("ACCRES") documented "concerns that on-site inspections are outdated and not cost-effective compliance mechanisms."[51] As Maxar explained, broad-reaching site inspections disincentivizes third parties from working with U.S. providers of remote sensing services given that such inspections may put these parties on call for short-notice inspections.[52] And physical inspections of facilities make little sense in a world where data processing has increasingly moved to a cloud environment.[53] Indeed, the Commercial Smallsat Spectrum Management Association ("CSSMA") pointed out that "[v]irtual inspections" can often serve the same purpose as on-site inspections, while saving NOAA "substantial travel costs and coordination efforts[.]"[54] ACCRES ultimately recommended that if inspections were retained, they should be undertaken (1) flexibly, (2) with "clear and stated objectives," and (3) only if NOAA identifies a "compliance concern related to a national security risk[.]"[55] The 48-hour notice provision achieves none of these objectives.

Moreover, the Final Rule's elimination of complex, individual data protection plans moots the need for physical site inspections. NOAA correctly relieved licensees of the requirement "to complete, update, and comply with lengthy data protection plans" and instead instituted discrete

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[51] ACCRES NPRM Comments, at 42; *see also* Space Logistics NPRM Comments, at 10 n.36; Space Logistics ANPRM Comments, at 13; CSSMA ANPRM Comments at 23–24.

[52] *See* Maxar NPRM Comments, at 28.

[53] NOAA itself appears to acknowledge this fact with regard to data storage. *See* Final Rule, 85 Fed. Reg. at 30799 (explaining that "if system data are stored in a commercial cloud, Commerce will not require the ability to inspect those physical data centers.").

[54] CSSMA ANPRM Comments, at 23.

[55] ACCRES NPRM Comments, at 42.

cybersecurity requirements related to implementing limited-operations directives.[56] NOAA has otherwise left licensees "free to protect their data as they see fit, in accordance with their own, self-developed plan to manage cybersecurity risk."[57] NOAA recognized that "[t]his shift in approach recognizes that Commerce cannot continue to place the burden of mitigating national security risks posed by data largely on licensees, and also that licensees already have market incentives to protect their data and operations from interference."[58] Because the primary purpose of physical site inspections is to ensure compliance with now-eliminated data protection plans, the Final Rule has removed any need for physical site inspections.

At the very least, NOAA should eliminate site inspections for (1) earth stations that are not capable of commanding and controlling a satellite, and (2) foreign-controlled or foreign-sited facilities. First, NOAA should eliminate site inspections for non-command and control stations, *i.e.*, stations that do not have ultimate command authority—via encryption and/or authentication—to determine the operation of a satellite. Non-command and control stations include, *inter alia*, "bent pipe" stations that can uplink tasking requests to a satellite only on a case-by-case basis as authorized by the ultimate commanding authority. As SpaceX explained, NOAA's "return on investment" for ground stations incapable of command and control or decrypting downlinked data is low.[59] SpaceX is right. Ground stations that cannot generate commands or decrypt data are nothing more than a conduit for communications originating elsewhere and no different from a garden variety Internet connection. While NOAA was right to exclude some of these facilities by

[56] Final Rule, 85 Fed. Reg. at 30793.

[57] *Id.*

[58] *Id.*

[59] *See* SpaceX ANPRM Comments, at 5–6.

limiting the scope of the definition of remote sensing space system,[60] it should exclude all non-command and control facilities. Requiring these facilities to maintain readiness for short-term inspections serves no purpose and thus places an undue burden on operators that harms competitiveness.

Second, the 48-hour limitation does not resolve the issues related to physical inspections of foreign-controlled or foreign-sited facilities. As Maxar has previously explained, these facilities often are not amenable to U.S. government short-notice inspections.[61] And the decision whether to allow access is often beyond the control of the operator of the remote sensing system. For example, the operator may not be able to guarantee that foreign site personnel will be available during specific holidays, that a U.S. Government official will be able to timely obtain a visa, or that U.S. officials will be granted access to facilities co-located with a foreign government installation on short notice.[62]

The Final Rule also does not address concerns raised by commenters about NOAA's authority to apply the Land Remote Sensing Policy Act extraterritorially.[63] "It is a longstanding principle of American law that legislation of Congress, unless a contrary intent appears, is meant to apply only within the territorial jurisdiction of the United States."[64] That presumption applies here because the Land Remote Sensing Policy Act does not give "a 'clear indication of

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[60] *See* Final Rule, 85 Fed. Reg. at 30796, 30799 (limiting facilities that may be subject to inspection by excluding those "that conduct only higher-level data processing or storage").

[61] *See* Maxar NPRM Comments, at 29.

[62] *See id.*

[63] *Id.*

[64] *Morrison v. Nat'l Austl. Bank Ltd.*, 561 U.S. 247, 255 (2010) (citations and internal quotations omitted)).

extraterritoriality."[65] The Act expressly limits NOAA's licensing authority to persons and conduct "subject to the jurisdiction or control of the United States,"[66] so NOAA's authority to "make investigations and inquiries" in support of its licensing authority must be similarly limited.[67] Most conduct by U.S. operators occurs within the United States[68] and so in most cases an investigation involves a "permissible domestic application" of the Land Remote Sensing Policy Act.[69] However, any situation in which a foreign site inspection were required would necessarily involve operator conduct and agency investigation outside the United States. Because the Final Rule fails to acknowledge this difficulty or explain why the agency believes such extraterritorial application of the statute would be permissible, NOAA should clarify that the Final Rule does not authorize foreign site inspections.[70]

For these reasons, the Final Rule should eliminate altogether the possibility of physical site inspections. Commenters—including NOAA's own advisory committee—raised a myriad of concerns about the propriety of these inspections, and the Final Rule fails to address these

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[65] *Kiobel v. Royal Dutch Petroleum Co.*, 569 U.S. 108, 118 (2013) (quoting *Morrison*, 561 U.S. at 265) (holding statute lacked extraterritorial reach).

[66] 51 U.S.C. § 60122(a).

[67] 51 U.S.C. § 60123(a)(7).

[68] For example, the Final Rule contemplates the issuance of limited-operations directives for Tier 2 and Tier 3 systems. *See* 85 Fed. Reg. at 30792–93. The conduct required of a U.S. operator to implement such as directive—*i.e.*, the issuance of a command to the system to implement shutter control—would occur within the United States.

[69] *See RJR Nabisco, Inc. v. European Cmty.*, 136 S. Ct. 2090, 2101 (2016) ("If the conduct relevant to the statute's focus occurred in the United States, then the case involves a permissible domestic application even if other conduct occurred abroad[.]").

[70] *See, e.g.*, *Snohomish v. Surface Transp. Bd.*, 954 F.3d 290, 301 (D.C. Cir. 2020) ("The 'requirement that agency action not be arbitrary and capricious includes a requirement that the agency adequately explain its result.'").

shortcomings beyond a conclusory statement that it disagreed with them.[71] At a minimum, NOAA must eschew site inspections of non-command and control facilities and foreign facilities, consistent with its statutory authority and the insurmountable difficulties of short-notice inspections of these facilities.

D. NOAA Should Revise The Final Rule To Eliminate Conditions Pertaining To NEI And To Acknowledge That Its Statutory Jurisdiction Is Limited To Land Remote Sensing.

The Final Rule rightly eliminates many of the NEI restrictions that NOAA has imposed on individual private remote sensing licensees through special conditions and operating appendices. However, the Final Rule continues to incorrectly assert NOAA's authority over NEI in violation of the Land Remote Sensing Policy Act and, in doing so, fails to address the full extent of the many industry comments that showed NOAA's lack of statutory authority.[72]

The Final Rule correctly acknowledges that the Land Remote Sensing Policy Act, as amended, is the sole source of NOAA's authority to license private remote sensing space stations.[73] The Land Remote Sensing Policy Act requires any person operating a private remote sensing space system to obtain a NOAA license to collect data "which can be processed into imagery of surface

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[71] *See* Final Rule, 85 Fed. Reg. at 30799 ("Commerce disagrees with comments suggesting that physical inspections are always outdated and cost-ineffective[.]"); *see also AT&T Wireless Servs., Inc. v. FCC*, 270 F.3d 959, 968 (D.C. Cir. 2001) ("Conclusory explanations for matters involving a central factual dispute where there is considerable evidence in conflict do not suffice[.]").

[72] *See, e.g.*, *Industry Consensus Comments*, at 4–6 (explaining that although NOAA believes "Congress intended to grant NOAA authority to regulate all remote sensing activities from space and not just Earth imaging" in fact "the plain language of the Act, [and] its legislative history" limit NOAA's authority to "land"); Maxar NPRM Comments, at 20; Maxar ANPRM Comments, at 4–5.

[73] 85 Fed. Reg. at 30806 (§ 960.1); *see* 51 U.S.C. §§ 60101–60162.

features of the Earth."[74] The Land Remote Sensing Policy Act does not require a person to obtain a NOAA license to collect data which *cannot* be processed into imagery of surface features of the Earth.[75] NEI, by definition, falls into this latter category because it is the imaging of objects that are in space, not on Earth. Thus, the authority delegated to NOAA by the Land Remote Sensing Policy Act does not encompass NEI.

Many other textual provisions of the statute confirm that the authority delegated to NOAA is limited to regulation of land remote sensing. To begin with, the licensing requirement described in the preceding paragraph and, likewise, the concomitant conferral of licensing authority upon NOAA, are each housed within a section of the statute entitled "Land Remote Sensing Policy" which, in turn, is housed within a subtitle named "Earth Observations."[76] In addition, the statute authorizes NOAA to impose certain licensing conditions regulating the collection, processing, and storage of "land remote sensing data,"[77] and of "unenhanced data,"[78] which the statute expressly defines as data or unprocessed data relating to "the surface features of the Earth."[79] Tellingly,

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[74] 51 U.S.C. § 60101(4) (emphasis added); *see id.* § 60122(a) ("No person that is subject to the jurisdiction or control of the United States may . . . operate any private remote sensing space system without a license pursuant to section 60121 of this title.").

[75] *See id.* Some such activities may, of course, be regulated by other federal agencies if they are within the scope of the authority delegated by Congress to those agencies. *See, e.g.*, *id.* § 60125(e) ("Nothing in this subchapter shall affect the authority of the Federal Communications Commission pursuant to the Communications Act of 1934 (47 U.S.C. 151 et seq.).").

[76] 51 U.S.C. §§ 60121(a), 60122(a); *see e.g.*, *In re Coffman*, 766 F.3d 1246, 1251 (11th Cir. 2014) ("title[s] and headings are permissible indicators of meaning" (quoting Scalia, J. & Bryan A. Garner, *Reading Law: The Interpretation of Legal Texts* 221 (2012)).

[77] 51 U.S.C. § 60142(a)(1).

[78] *See, e.g.*, 51 U.S.C. §§ 60121(e), 60122(b), 60143, 60144, 60148.

[79] 51 U.S.C. § 60101(4) ("The term 'land remote sensing' means the collection of data which can be processed into imagery of surface features of the Earth[.]"); *see id.* § 60101(12) ("The term 'unenhanced data' means land remote sensing signals or imagery products that are unprocessed or subject only to data preprocessing."); *see also id.* § 60101(3) (defining "data preprocessing" with regard to "land remote sensing data" and "data with respect to features of the Earth").

there are no parallel provisions authorizing the NOAA to impose licensing conditions on non-earth imaging. Moreover, with regard to national security and foreign policy concerns that may arise as a result of space based remote sensing, the statute directs that they should be coordinated in consultation with the Landsat Program Management—*i.e.*, the integrated program management structure responsible for managing the U.S. Government's land remote sensing systems.[80]

These textual and structural indications within the Land Remote Sensing Policy Act are reinforced by the statute's legislative history and Congress's repeated declarations of purpose. Congress enacted the Land Remote Sensing Policy Act in 1992 to provide for "[t]he continuous collection and utilization of land remote sensing data from space,"[81] and to ensure that the "commercialization of land remote sensing should remain a long-term goal of United States policy."[82] In 2010, Congress re-codified the Land Remote Sensing Policy Act,[83] added the headings "Earth Observations" and "Land Remote Sensing Policy" to the U.S. Code,[84] and declared that the new codification "conform[s] to the understood policy, intent, and purpose" of the Land Remote Sensing Policy Act[85]—which, at that time, had never been interpreted by NOAA to reach NEI. Legislative reports and committee hearings similarly confirm that Congress's intent was limited to the regulation of land remote sensing.[86] Indeed, the use cases that Congress

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[80] 51 U.S.C. § 60147; *see also id.* §§ 60101(5)–(8), 60111–60113.

[81] Land Remote Sensing Policy Act of 1992, Pub. L. No. 102-555, 106 Stat. 4163 § 2(1).

[82] *Id.* § 2(6).

[83] National and Commercial Space Programs Act, Pub. L. No. 111-314, ch. 601, 124 Stat. 3328, 3409–22 (2010).

[84] *See id.*

[85] *Id.* § 2(b).

[86] *See, e.g.*, U.S. General Accounting Office, Congressional Record 102nd Congress, Senate, S 17140 – S 17141 (Oct. 7, 1992); Report of the Senate Committee on Commerce, Science, and Transportation on S. 2297, 2–3 (Sep. 30, 1992).

expressed an interest in regulating—*e.g.*, "crop identification and yield estimation; oil; gas and mineral exploration; urban and environmental planning and management; water resources modeling; mapmaking; and environmental hazards risk assessments"[87]—are all Earth bound.

The text of the Final Rule correctly acknowledges this fundamental statutory limitation on NOAA's authority. The Final Rule prohibits any U.S. person from operating a "private remote sensing space system" "without a current, valid license for that system."[88] Critically, the Final Rule further provides that "remote sensing" means "the collection of unenhanced data by an instrument in orbit of the Earth which can be processed into imagery of surface features of *the Earth*."[89] Thus, under the text of the Final Rule and consistent with the statute, a NOAA license is not required for the collection of data that *cannot* be processed into imagery of surface features of the Earth—collection such as NEI.

Notwithstanding this plain language, however, the Final Rule elsewhere purports to regulate NEI. Specifically, the Final Rule states that the operator of a Tier 2 or Tier 3 system may conduct "resolved imaging of other artificial resident space objects (ARSO) orbiting the Earth only with the written consent of the registered owner of the ARSO to be imaged and with notification to the Secretary at least five days prior to imaging."[90] In addition, the Final Rule appear to reserve to NOAA the authority to impose on Tier 3 systems any "additional[,] temporary license

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[87] U.S. General Accounting Office, Congressional Record 102nd Congress, Senate, S 17140 – S 17141 (Oct. 7, 1992).

[88] *See* Final Rule, 85 Fed. Reg. at 30807 (§ 960.4), 30810 (§ 960.16).

[89] *Id.* at 30807 (§ 960.4) (emphasis added). This limitation is consistent with NOAA's current regulations, which provide that the term "remote sensing space system" means only those "facilities capable of actively or passively sensing the Earth's surface, including bodies of water, from space by making use of the properties of the electromagnetic waves emitted, reflected, or diffracted by the sensed objects." 15 C.F.R. § 960.3.

[90] Final Rule, 85 Fed. Reg. at 30809 (§ 960.9(b); § 960.10(a)(2)).

conditions" developed by NOAA in coordination with the Secretaries of Defense and State—including, presumably, conditions regulating NEI.[91]

NOAA's explanation of this expansive interpretation of its authority falls short. The agency now concedes that it lacks authority to license "systems that can only produce data that cannot be processed into Earth-surface imagery."[92] However, NOAA argues that it may nevertheless regulate "a system in Earth orbit designed to conduct NEI . . . because the instruments used for such missions typically are *capable* of collecting data that can be processed into imagery of the surface features of the Earth."[93] In other words, NOAA believes that because Congress has granted it authority to license systems that engage in remote sensing operations, Congress must have intended to include within that authority the power to regulate the *non*-remote sensing operations of the same systems. Under this flawed logic, NOAA concludes that it may impose NEI conditions even though the Final Rule acknowledges that NEI is not "remote sensing."

NOAA's new position is foreclosed by the plain text of the statute. The Land Remote Sensing Policy Act provides that "[i]n the case of a private space system that is used for remote

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[91] *See id.* at 30809–10 (§ 960.10). This is no empty worry. Although NOAA's published regulations have long disclaimed authority to regulate NEI, *see* 15 C.F.R. § 960.3 (defining "remote sensing space system" as only those "facilities capable of actively or passively sensing the Earth's surface, including bodies of water, from space by making use of the properties of the electromagnetic waves emitted, reflected, or diffracted by the sensed objects"), in recent years NOAA has increasingly sought to impose NEI conditions on individual remote sensing space system operators through an ad hoc system of licensing conditions purporting to regulate NEI.

[92] Final Rule, 85 Fed. Reg. at 30796. In the Proposed Rule, NOAA had erroneously claimed that the Land Remote Sensing Policy Act granted it direct authority to regulate such systems because the statute's licensing provision "avoid[s] the world 'land.'" Proposed Rule, 84 Fed. Reg. at 21283. That argument is belied by the text, structure, history, and purpose of the Land Remote Sensing Policy Act which, as explained in the preceding text, all confirm that NOAA's regulatory authority is limited to land remote sensing. For reasons that are explained in the text that follows, NOAA's new position is likewise foreclosed by the statute.

[93] Final Rule, 85 Fed. Reg. at 30796 (emphasis added).

sensing and other purposes"—the very situation NOAA posits in the Final Rule—"the authority of the Secretary under this subchapter shall be limited only to the remote sensing operations of such space system."[94] Thus, contrary to NOAA's contention, Congress expressly determined that NOAA could not regulate non-remote sensing operations—such as NEI—merely because NOAA can regulate the remote sensing operations of the same systems. Thus, because "Congress has directly spoken to the precise question at issue" in this proceeding, "that is the end of the matter" and NOAA "must give effect to the unambiguously expressed intent of Congress" by acknowledging that it lacks authority to regulate NEI.[95]

To remedy its error, NOAA should amend the Final Rule to eliminate the NEI conditions it places on Tier 2 and Tier 3 systems. Furthermore, NOAA should clarify in the Final Rule that the power to impose additional, temporary conditions on Tier 3 systems does not include the power to impose conditions that would regulate NEI.

E. NOAA Should Establish An Emergency Exception To The Five-Day Notice Requirement Applicable To Tier 2 And Tier 3 Systems.

If NOAA continues to unlawfully assert jurisdiction over NEI—it should not—it must, at the very least, create an emergency exception to the notice requirement for Tier 2 and Tier 3 systems. As previously indicated, the Final Rule requires Tier 2 and Tier 3 systems to provide "notification to the Secretary at least five days prior to imaging" ARSO.[96] The five-day notice requirement may be reasonable in some circumstances such as routine operations, *e.g.*, when a particular ARSO is to be repeatedly imaged over a long period of time in many circumstances.

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[94] 51 U.S.C. § 60121(a)(2).

[95] *Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2117, 2124–25 (2016) (citation omitted).

[96] Final Rule, 85 Fed. Reg. at 30809 (§ 960.9).

And it is a marked improvement over the Proposed Rule's 30-day notice requirement.[97] However, the Final Rule fails to account for the fact that emergencies sometimes arise during space operations that make prior notice to the Secretary impossible.[98]

Indeed, NOAA itself has previously acknowledged this point. Last year, Maxar explained to NOAA that a prior notice requirement imposed as a license condition on several of its licenses was inconsistent with the dynamic nature of space, where minutes matter for certain procedures, such as conjunction avoidance or anomaly resolution. NOAA agreed and carved out an exception for imaging ARSO that experience sudden, unforeseen circumstances that risk loss of satellite capabilities or operations. Maxar encourages NOAA to take a similar approach here and exempt emergency operations from the five-day notice requirement. Maxar suggests the following edits (in red, emphasized text) to the proposed language of § 960.9(b) if NOAA pursues this change:

> If the Secretary has categorized the system as Tier 2 under § 960.6, the license shall specify that the licensee shall comply with the conditions listed in § 960.8 and further shall comply with the following conditions until the Secretary notifies the licensee that the system belongs in a lower-numbered tier:
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> . . .
>
> (b) Conduct resolved imaging of other artificial resident space objects (ARSO) orbiting the Earth only with the written consent of the registered owner of the ARSO to be imaged and with notification to the Secretary at least five days prior to imaging. For purposes of this paragraph (b), "resolved imaging" means the imaging of another ARSO that results in data depicting the ARSO with a resolution of 3 x 3 pixels or greater. **Licensees may image an ARSO that has experienced sudden, unforeseen circumstances that may lead to the**

[97] *See* Proposed Rule, 84 Fed. Reg. at 21295.

[98] *See*, *e.g.*, Comments of the Consortium for the Execution of Rendezvous and Serving Operations, In the Matter of Licensing of Private Remote Sensing Space Systems – ANPRM, RIN 0648-BA15, NPRM (filed July 15, 2019), at 3 ("*CONFERS NPRM Comments*") (explaining that prior notice requirement for NEI would "impact[] the ability to provide quick-response commercial on-orbit inspection and [space situational awareness] services to help resolve on-orbit anomalies and mishaps for both commercial and government customers."); Comments of Planet Labs Inc., In the Matter of Licensing of Private Remote Sensing Space Systems, NOAA-NESDIS-2018-0058, NPRM (filed July 15, 2019), at 10 ("*Planet Labs NPRM Comments*") (urging government to allow "immediate" NEI in "emergency situations with reporting requirements").

loss of satellite capabilities or operations without prior notice to the Secretary, so long as notice is provided within five days after such imaging.

IV. CONCLUSION

Maxar appreciates the opportunity to comment on this proceeding to "ensure[] the United States remains the 'flag of choice' for operators of private remote sensing space systems."[99] Maxar applauds NOAA's efforts to this effect thus far and encourages NOAA to adopt Maxar's proposals designed to further this shared goal.

Respectfully submitted,

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June 10, 2020

[99] 85 Fed. Reg. 30790.